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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/910,928	07/24/2001	Hideo Kato	35. C15601	3568

5514 7590 04/24/2003

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NEW YORK, NY 10112

EXAMINER
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DICUS, TAMRA

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 04/24/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/910,928

Applicant(s)

KATO, HIDEO

Examiner

Tamra L. Dicus

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 February 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 17-25 is/are pending in the application.
- 4a) Of the above claim(s) 24 and 25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Amendment***

1. Newly submitted claims 24 and 25 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Claim 24 is directed to an apparatus, while the originally elected claims are to an element. Similarly, claim 25 is directed to a method.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 24-25 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

In response to Applicant's belief that restrictions are required off hypothetical scenarios is irrelevant. The groups are distinct and independent, as stated in Office Action May 20, 2002, Paper No. 5 where the reasoning for the distinct and independent groups was recited. Applicant elected group II, claims 6-9 to the element. The restriction requirement is made FINAL.

The Examiner acknowledges cancellation of claims 1-5 and 10-16.

### ***Claim Objections***

2. Claim 22 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 17 includes the limitation "silica containing fluorine".

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 17-19 and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over

USPN 5,952,084 to Anderson et al. in view of USPN 5,958,809 to Fujiwara et al.

6. Anderson teaches a transparent substrate of glass having deposited thin-film antireflection coatings (optical element) (meeting claim 23). The thin-film antireflection coatings comprise an aluminium fluoride or oxyfluoride film that contains fluorine and silica (silica containing fluorine) at col. 3, lines 1-22, lines 29-49. See also col. 1, lines 14-45, col. 4, lines 1-40.

Anderson explains the oxide in silica helps to adjust the refractive index of the film. Regarding the refractive index property between 1.6 to 1.80 of claim 19, Anderson teaches the refractive index being less than 1.63, meeting Applicants claimed range. Anderson teaches adding MgF<sub>2</sub> at col. 1, lines 38-60.

Anderson is silent to teaching the molar weights of fluorine and silica. However, Fujiwara teaches fluorine-containing silica glass, where the concentration of fluorine in silica is 0.01-0.5 weight percent, meeting Applicant's range of fluorine between 0.1 to 10 mol %, including not less than 1 mol percent as an effective amount for light transmission. See col. 9, lines 33-35.

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7. Claims 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,952,084 to Anderson et al. in view of USPN 6,224,976 to Takushima et al., and USPN 5,028,967 to Yamada et al.
8. Anderson teaches a transparent substrate of glass having deposited thin-film antireflection coatings (optical element) (meeting claim 23). The thin-film antireflection coatings comprise an aluminium fluoride or oxyfluoride film that contains fluorine and silica (silica containing fluorine) at col. 3, lines 1-22, lines 29-49. See also col. 1, lines 14-45, col. 4, lines 1-40. Anderson explains the oxide in silica helps to adjust the refractive index of the film. Regarding the refractive index property between 1.6 to 1.80 of claim 19, Anderson teaches the refractive index being less than 1.63, meeting Applicants claimed range. Anderson teaches adding MgF<sub>2</sub> at col. 1, lines 38-60.

Regarding the addition of LiF, and/or Na<sub>3</sub>AlF<sub>6</sub>, while Anderson teaches adding MgF<sub>2</sub> at col. 1, lines 38-60, Anderson does not teach the other compounds. The other compounds are taught in Takushima reference. The Takushima invention is directed to an optical laminated multilayer film with an antireflective layer comprising MgF<sub>2</sub>, LiF, and/or Na<sub>3</sub>AlF<sub>6</sub>. Takushima explains the aforementioned additives are known high-refractive index materials and useful for UV-cutting filters or sheets for television at col. 15, lines 29-50, col. 17, lines 44-55 and col. 18, lines 32-42. Therefore, it would have been obvious to one of ordinary skill in the art to modify the optical element of Anderson to further include a layer of LiF and/or Na<sub>3</sub>AlF<sub>6</sub> for the purpose of providing high-refractive index useful for ultraviolet cutting sheets as taught by Takushima.

Addressing claim 21, Anderson is silent to further including fluorite. However Yamada teaches an optical element such as a lens for ultraviolet rays that teaches using fluorine-

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containing silica glass, where the concentration of fluorine in silica is 2-4 mol percent further comprising fluorite at col. 1, line 50 and col. 2, lines 25-30. Hence it would have been obvious to one of ordinary skill in the art to modify the optical element of Anderson to further include fluorite in a silica containing fluorine since Yamada teaches adding fluorite makes a lens capable of transmitting excimer laser efficiently at col. 1, lines 43-50.

### ***Response to Arguments***

6. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamra L. Dicus whose telephone number is (703) 305-3809. The examiner can normally be reached on Monday-Friday, 7:00-4:30 p.m., alternate Fridays.

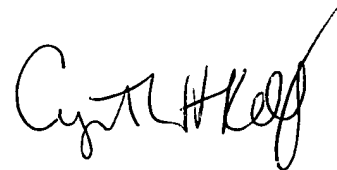
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on (703) 308-0449. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-8329 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Tamra L. Dicus  
Examiner  
Art Unit 1774

April 21, 2003

CYNTHIA H. KELLY  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700

A handwritten signature in black ink, appearing to read 'Cynthia H. Kelly', with a long, sweeping horizontal stroke extending to the right.